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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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08/518,051 08/22/95 RUSSELL

S 74023

EXAMINER

LMS1/1215

COMMANDING OFFICER  
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MENGISTULA  
ART UNIT PAPER NUMBER

2774

DATE MAILED:

12/15/97

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 9-19-97

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), ~~or thirty days~~, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-11 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-11 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of Reference Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the *“polarizer”*, *“an analyzer”*, *“electronically programmable driver”*, *“interface circuitry”*, *“gray scale control”* must be shown or the feature(s) cancelled from the claim(s). No new matter should be entered.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: *“driver interface circuit”* and also there is no numeral representation in the drawing. Correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3,6,10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (figs. 1-3).

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As to claims 1-3,6,10-11, Applicant's Admitted Prior Art a super twisted nematic liquid crystal display system (figs. 1-3, also see, page 8, the last 2 lines) comprising: a polarizer (16), a beam of incident light (22), a pixel sequence coupled (14) to the polarizer comprising multiple crystal display pixels (10) aligned collinearly along the beam of polarized light for varying the polarization angle, an analyzer coupled to the polarizer and the pixel sequence to pass a gray-scale portion of the beam of polarized light transmitted from the pixel sequence as a function of polarized angle (page, 8, lines 6-23), a transparent substrates (12) ; and a drive circuit (18).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5, 8 and 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Johary et al (5,196,839).

As to claims 4-5,8 and 9, Applicant's Admitted Prior Art discloses a liquid crystal display with a gray scale control, but has failed to explicitly teach the gray scale control includes a programmable driver. Johary is cited to teach that it is well known for a gray scale display circuit to have a programmable gray scale generators (drivers) to provide gray scale at the display (see, Abstract, col.2, lines 35-46).

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Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to have incorporated programmable gray-scale drives of Johary into the system of Applicant's Admitted Prior Art, since this will allow the Admitted Prior Art device to have an advantage of automatically control the gray scale of a display in order to ensure simplicity and higher efficiency of adjustment operation without requiring operators.

As to claim 8, active matrix liquid crystal display is well know in a display art.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Kobayashi et al (5,680,185).

In regard to claim 7, Applicant's Admitted prior Art discloses a liquid crystal display having a substrates (page 2, lines 5-10), but failed the substrate being a sapphire substrates. However, Kobayashi et al clearly shows that the substrates could be made of sapphire substrates (col.14, lines 39-46).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to have used Kobayashi's sapphire substrate into the device of Applicant's's Admitted Prior Art device since this will greatly reduce the interface properties and enabling a high quality silicon layer.

***Response to Arguments***

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8. Applicant's arguments filed on 9/19/97 have been fully considered but they are not persuasive.

Applicant argues that Applicant's Admitted Prior Art (figs.1-3) show only a single pixel aligned collinearly along the polarized beam. The Examiner strongly disagrees with Applicant's assertion. The light beam (22) passing through a polarizer (16) (in short polarized beam) and also passes through the LCD (10) with a plurality of pixel elements (14) (see, page 8, lines 10-12). The display (10) is made of plurality of pixel element (14) and not single pixel element. Thus, the polarized light pass through a plurality of LCD pixels.

9. Any inquiry concerning this communication should be directed to Amare Mengistu at telephone number (703) 305-4880.

10. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

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**Or:**

(703) 308-6606 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA., Sixth Floor (Receptionist).

  
Amare Mengistu

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Dec. 9, 1997